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UNITED STATES MARITIME COMMISSION

Extension Courses
FOR
PERSONNEL OF THE
AMERICAN MERCHANT MARINE



OCTOBER 1939



International Correspondence Schools

SCRANTON, PENNSYLVANIA

This Certifies that **E. Q. M. Daniel L. Courtois**
has studied and satisfactorily completed all of the subjects included in our
Ocean Navigation

Course, has passed the required examinations and is hereby awarded this

DIPLOMA

as an acknowledgment of his proficiency and in recommendation of his acquirements

SUBJECTS

Arithmetic,	Piloting, Dead Reckoning,
Algebra and Formulas,	Nautical Astronomy,
Elements of Geometry,	Latitude Determination,
Logarithms, Trigonometry,	Longitude and Azimuth,
Elements of Navigation,	Sunmer's Method,
Observation and Compass Work,	Mareq St. Hilaire's Method,
Chart Work, Read and Log,	Ocean Meteorology,
	International Rules and Signals.

Witness: The Signatures of Officers of the International Correspondence Schools, the Dean
of the Faculty and the Director of the School of Navigation.
Given under the Seal of the Schools in the City of Scranton, on the 25 Day of Aug. 1909.

Ralph E. Weeks
President

H. C. Johnson
Secretary



Reuben J. Litchman
Dean of the Faculty

E. K. Roberts

Headquarters U. S. Coast Guard, Washington, D. C.
Presented upon the completion of the Course in
The Coast Guard Institute.

AR Wausche
Rear Admiral Commandant

Diploma issued by Coast Guard Institute

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ESTABLISHMENT OF EXTENSION COURSES

Extension courses are offered to personnel of the American Merchant Marine by the United States Maritime Commission in accordance with a statute which provides:

The Commission is hereby authorized to prescribe, conduct, and supervise such extension and correspondence courses as it may deem necessary to supplement other training facilities, and to make such courses available, under such rules and regulations and upon such terms as it may prescribe, to the licensed and unlicensed personnel of the merchant marine, and to cadets and cadet officers who shall make application therefor.

WHO IS ELIGIBLE

The extension courses are offered to seamen of oceangoing and Great Lakes vessels who are active in their calling. A minimum of 12 months' service on seagoing or Great Lakes vessels over 500 gross tons during the 3 years immediately preceding the date of application is required. Both licensed and unlicensed seamen may apply for enrollment. In order to determine that applicants have the necessary educational qualifications to undertake the courses for which they apply, each application must be endorsed by the master, chief engineer, or chief purser of a vessel on which the applicant has served. Enrollees who fail to submit a reasonable number of lessons for review or who fail to continue their calling as seamen may be disenrolled.

CADET OFFICERS AND CADETS

Cadet officers and cadets should apply for extension courses to the Supervisor of Cadet Training. Required courses are prescribed by the regulations for cadet officers and cadets.

HOW TO APPLY

An application should be submitted on the form provided by the Maritime Commission. Forms may be obtained in the principal seaports at the offices of the Maritime Commission, Coast Guard, and shipping commissioners. The applicant should fill out the form, have it endorsed by the master, chief engineer, or chief purser of a vessel on which he has served, and forward it to the United States Maritime Service, Washington, D. C.

COURSES AVAILABLE

The Maritime Commission has arranged for the Coast Guard Institute at New London, Conn.; to administer the extension courses offered to seamen. Most of these are the regular correspondence courses published by the International Correspondence Schools of Scranton, Pa. The papers submitted by students will be reviewed and graded by Coast Guard personnel who have qualified for such duty according to the standards of the International Correspondence Schools. In addition, courses of special interest to seamen, not included in the International Correspondence Schools list, will be made available through the Coast Guard Institute. An appropriate diploma will be issued to each student completing a course satisfactorily. Unless otherwise noted, courses listed in this pamphlet refer to those issued by the International Correspondence Schools.

COST TO STUDENTS

The only cost to students will be for payment of pamphlets issued by the Coast Guard Institute and for necessary postage. Each application for enrollment must be accompanied by a money order covering the total cost of pamphlets for the course desired as indicated below. This money order should be made payable to the TREASURER OF THE UNITED STATES. Pamphlets become the property of the student. No refund will be made on account of the failure of a student to complete a course, but all pamphlets paid for will be issued upon request. The cost of administration and salaries of instructors will be borne by the Maritime Commission, and students will pay only for study material which becomes their property.

INFORMATION AND APPLICATIONS

Seamen who desire to take advantage of the courses offered by the Maritime Commission or who require further information should address—

U. S. MARITIME SERVICE, WASHINGTON, D. C.

LIST OF CORRESPONDENCE COURSES AVAILABLE

KDB	MOTORBOAT NAVIGATION		KDB
No.	Title	Lessons	Price
1464	Nautical Terms.....	1	-----
1465-A	Motorboats.....	1	-----
1465-B	do.....	1	-----
1466-A	Marine Gasoline Engines.....	1	-----
1466-B	do.....	1	-----
1467-A	Management of Marine Gasoline Engines.....	1	-----
1467-B	do.....	1	-----
1468-A	Motorboat Navigation.....	1	-----
1468-B	do.....	1	-----
5272	Motorboat Rules and Signals.....	1	-----
	Final examination.....	1	-----
	Total.....	11	\$4. 25

KAE

OCEAN NAVIGATION

KAE

No.	Title	Lessons	Price
1975	Elements of Arithmetic	1	
1976	Fractions	1	
1977	Decimals	1	
1978	Weights and Measures	1	
1979	Ratio and Proportion	1	
1980	Powers and Roots	1	
1982	Formulas	1	
906	Elements of Geometry	1	
904	Elements of Navigation	1	
5289	Introduction to Ship Drafting (for reference only)		
3085-A	The Compass	1	
3085-B	do	1	
5362	Chart, Lead, and Log	1	
BV	Useful Tables (Bowditch) (no lesson)		
5363	Piloting	1	
5254	Logarithms	1	
1154	Trigonometry	1	
1157-A	Dead Reckoning	1	
1157-B	do	1	
2635	Abridged Nautical Almanac (for reference only)		
2630-A	Nautical Astronomy	1	
2630-B	do	1	
2631	Latitude	1	
2632	Longitude and Azimuth	1	
2633	Sumner's Method	1	
2634-A	Marq. St. Hilaire's Method	1	
2634-B	do	1	
2637	Ocean Meteorology	1	
2643	International Rules and Signals	1	
2642	Stowage of Cargo	1	
	Final examination	1	
	Total	28	\$12.13

HBV

SHORT MARINE ENGINEER'S COURSE

HBV

[International Correspondence Schools certificate issued in lieu of a diploma]

1975	Elements of Arithmetic	1	
1976	Fractions	1	
1977	Decimals	1	
1978	Weights and Measures	1	
1979	Ratio and Proportion	1	
1980	Powers and Roots	1	
1981	Mensuration	1	
1982	Formulas	1	
1965-A	Mechanical Principles	1	
1965-B	do	1	
2877	Heat	1	
2878	Steam	1	
	(Accompanied by Keenan's Steam Tables)		
2850	Types of Marine Boilers	1	
2851-A	Marine Boiler Details (optional)	1	
2851-B	do	1	
2836	Pipes and Pipe Fittings	1	
2852-A	Marine Boiler Accessories	1	
2852-B	do	1	
2853	Fuels and Combustion	1	
2843	Elements of Oil Burning	1	
2854	Oil Burning Under Marine Boilers	1	
2855-A	Marine Boiler Feeding	1	
2855-B	do	1	
2859	Marine Engine Mechanism	1	
2863-A	Marine Slide-Valve Gears	1	
2863-B	do	1	
2864	Multiple-Expansion Marine Engines	1	
2865	Condensers	1	
2869-A	Marine Pumps	1	
2869-B	do	1	
2873	Marine Lubrication	1	
2315	Steam Turbines	1	
2871	Principles of the Steam Turbine	1	
2872	Marine Steam Turbines	1	
	Final examination	0	
	Total	34	\$16.15

No.	Title	Lessons	Price
1975	Elements of Arithmetic	1	
1976	Fractions	1	
1977	Decimals	1	
1978	Weights and Measures	1	
1979	Ratio and Proportion	1	
1980	Powers and Roots	1	
1981	Mensuration	1	
1982	Formulas	1	
1983	Cube Root	1	
1965-A	Mechanical Principles	1	
1965-B	do	1	
2160	Strength of Materials	1	
2877	Heat	1	
2878	Steam	1	
	(Accompanied by Keenan's Steam Tables)		
2850	Types of Marine Boilers	1	
2851-A	Marine Boiler Details	1	
2851-B	do	1	
2852-A	Marine Boiler Accessories	1	
2852-B	do	1	
2853	Fuels and Combustion	1	
2843	Elements of Oil Burning	1	
2854	Oil Burning Under Marine Boilers	1	
2431-A	Pulverized Coal Burning	1	
2431-B	do	1	
2855-A	Marine Boiler Feeding	1	
2855-B	do	1	
2856	Marine Boiler Management	1	
2857	Marine Boiler Repairs	1	
5262	Marine Boiler Specifications	1	
5263	Marine Boiler Inspection	1	
2859	Marine Engine Mechanism	1	
2861	Indicating Steam Engines	1	
2862	Engine Testing	1	
2863-A	Marine Slide-Valve Gears	1	
2863-B	do	1	
2864	Multiple-Expansion Marine Engines	1	
2865	Condensers	1	
2866-A	Marine Engine Management	1	
2866-B	do	1	
2867	Marine Engine Repairs	1	
2315	Steam Turbines	1	
2871	Principles of the Steam Turbine	1	
2872	Marine Steam Turbines	1	
2868	Marine Deck Machinery	1	
2869-A	Marine Pumps	1	
2869-B	do	1	
2870	Propulsion of Vessels	1	
2873	Marine Lubrication	1	
2886	Principles of Marine Refrigeration	1	
2887	Marine Ammonia Refrigeration Apparatus	1	
2888	Marine Applications of Refrigeration	1	
2889	Management of Marine Refrigeration Machinery	1	
2700-A	Electricity and Magnetism	1	
2700-B	do	1	
2716	Theory and Construction of Direct-Current Motors and Generators	1	
2715	Characteristics of D.-C. Motors and Generators	1	
2367	Alternating-Current Generators, Transformers, and Motors	1	
2369	Electrical Measuring Devices	1	
2239	Elements of Blueprint Reading (optional)	1	
2240-A	Reading Shop Blueprints (optional)	1	
2240-B	do	1	
2240-C	do	1	
2240-D	do	1	
2249	Machine Sketching (optional)	1	
	Final examination	1	
	Total	65	\$28.45

MRU

INTERNAL-COMBUSTION ENGINES

MRU

No.	Title	Lessons	Price
1975	Elements of Arithmetic	1	-----
1976	Fractions	1	-----
1977	Decimals	1	-----
1978	Weights and Measures	1	-----
1979	Ratio and Proportion	1	-----
1980	Powers and Roots	1	-----
1981	Mensuration	1	-----
1982	Formulas	1	-----
5364	The Slide Rule (optional)	1	-----
1965-A	Mechanical Principles	1	-----
1965-B	do	1	-----
3117	Elementary Principles of Electricity	1	-----
2877	Heat	1	-----
3135	Combustion and Fuels	1	-----
3136	Principles of the Internal-Combustion Engine	1	-----
3137-A	Stationary Diesel Engines	1	-----
3137-B	do	1	-----
3138-A	High-Speed Diesel Engines	1	-----
3138-B	do	1	-----
3145-A	Marine Diesel Engines	1	-----
3145-B	do	1	-----
3139	Diesel Engine Details	1	-----
5179-A	Gas Engines	1	-----
5179-B	do	1	-----
5181	Carburetors	1	-----
5180-A	Electric Ignition Devices	1	-----
5180-B	do	1	-----
3140	Internal-Combustion Engine Auxiliaries and Installation	1	-----
3141	Lubrication	1	-----
3143	Management of Diesel Engines	1	-----
5182	Gas Engine Management	1	-----
3142	Internal-Combustion Engine Testing	1	-----
3144	Diesel Engine Troubles and Remedies	1	-----
5183-A	Gas Engine Troubles and Remedies	1	-----
5183-B	do	1	-----
5253	Lubrication and Cooling Troubles and Remedies	1	-----
	Final examination	1	-----
	Total	37	\$18.20

MRR

DIESEL ENGINES

MRR

1975	Arithmetic	1	-----
1976	Fractions	1	-----
1977	Decimals	1	-----
1978	Weights and Measures	1	-----
1979	Ratio and Proportion	1	-----
1980	Powers and Roots	1	-----
1981	Mensuration	1	-----
1982	Formulas	1	-----
5364	The Slide Rule (optional)	1	-----
1965-A	Mechanical Principles	1	-----
1965-B	do	1	-----
3147	Elementary Principles of Electricity	1	-----
2877	Heat	1	-----
3135	Combustion of Fuels	1	-----
3136	Principles of the Internal-Combustion Engine	1	-----
3137-A	Stationary Diesel Engines	1	-----
3137-B	do	1	-----
3138-A	High-Speed Diesel Engines	1	-----
3138-B	do	1	-----
3145-A	Marine Diesel Engines	1	-----
3145-B	do	1	-----
3139	Diesel Engine Details	1	-----
3140	Internal-Combustion Engine Auxiliaries and Installation	1	-----
3141	Lubrication	1	-----
5180-A	Electric Ignition and Starting (optional)	1	-----
5180-B	do	1	-----
3142	Internal-Combustion Engine Testing	1	-----
3143	Management of Diesel Engines	1	-----
3144	Diesel Engine Troubles and Remedies	1	-----
5253	Lubrication and Cooling Troubles and Remedies	1	-----
	Final examination	1	-----
	Total	31	\$14.65

MIL

GAS AND ELECTRIC WELDING

MIL

No.	Title	Lessons	Price
1975	Elements of Arithmetic.....	1	-----
1976	Fractions.....	1	-----
1977	Decimals.....	1	-----
1978	Weights and Measures.....	1	-----
1979	Ratio and Proportion.....	1	-----
1980	Powers and Roots.....	1	-----
1981	Mensuration.....	1	-----
1982	Formulas (optional).....	1	-----
2209	Measuring Instruments.....	1	-----
2202	Elementary Chemistry.....	1	-----
5110	Metallurgy of Iron.....	1	-----
5111	Metallurgy of Steel.....	1	-----
2333	Metallurgy of Nonferrous Metals and Fuels.....	1	-----
2344	Elements of Metallography (optional).....	1	-----
5153	Gas Welding Equipment.....	1	-----
5154	Gas Welding of Carbon Steels.....	1	-----
5155	Gas Welding of Cast Iron and Alloy Steels.....	1	-----
5156	Gas Cutting.....	1	-----
5157	Gas Welding of Pipe.....	1	-----
5158	Gas Welding of Nonferrous Metals and Overlaying.....	1	-----
5159	Gas Welding Examples.....	1	-----
5247	Electricity for Welders.....	1	-----
5248	Arc Welding Equipment.....	1	-----
5249-A	Arc Welding of Low Carbon Steels.....	1	-----
5249-B	do.....	1	-----
5250	Arc Welding of Alloy Steels and Irons.....	1	-----
5251	Arc Welding of Nonferrous Metals and Overlaying.....	1	-----
5252	Resistance Welding.....	1	-----
5160	Inspection and Testing of Welds.....	1	-----
2207	General Appliances and Processes (optional).....	1	-----
2239	Elements of Blueprint Reading (optional).....	1	-----
	Final examination.....	1	-----
	Total.....	32	\$12 80

MTB

AVIATION MECHANICS

MTB

1975	Elements of Arithmetic.....	1	-----
1976	Fractions.....	1	-----
1977	Decimals.....	1	-----
1978	Weights and Measures.....	1	-----
1979	Ratio and Proportion.....	1	-----
1980	Powers and Roots.....	1	-----
1981	Mensuration.....	1	-----
1982	Formulas.....	1	-----
1965-A	Mechanical Principles.....	1	-----
1965-B	do.....	1	-----
2877	Heat.....	1	-----
3135	Combustion and Fuels.....	1	-----
3136	Principles of the Internal Combustion Engine.....	1	-----
5163-A	Aviation Engines.....	1	-----
5163-B	do.....	1	-----
5163-C	do.....	1	-----
5164	Aviation Engine Carburetors.....	1	-----
5147	Elementary Principles of Electricity.....	1	-----
2522	Aviation Engine Ignition, Lubrication, and Cooling.....	1	-----
2523	Aviation Engine Accessories.....	1	-----
2524	Aviation Engine Management.....	1	-----
2525	Aviation Engine Maintenance.....	1	-----
5310-A	The Airplane and Its Parts.....	1	-----
5310-B	do.....	1	-----
5311	Elementary Aeronautical Engineering.....	1	-----
5312	Woodworking Tools.....	1	-----
5313	Metalworking Tools.....	1	-----
5311	Aircraft Woodwork.....	1	-----
5315-A	Aircraft Metalwork.....	1	-----
5315-B	do.....	1	-----
5316	Protection of Airplane Parts.....	1	-----
5317	Covering and Doping Airplane Surfaces.....	1	-----
5318-A	Airplane Instruments and Accessories.....	1	-----
5318-B	do.....	1	-----
2530	Airplane Maintenance.....	1	-----
5364	The Slide Rule (optional).....	1	-----
	Final examination.....	1	-----
	Total.....	37	\$15.35

MRI

AVIATION ENGINES

MRI

No.	Title	Lessons	Price
1975	Elements of Arithmetic.....	1	-----
1976	Fractions.....	1	-----
1977	Decimals.....	1	-----
1978	Weights and Measures.....	1	-----
1979	Ratio and Proportion.....	1	-----
1980	Powers and Roots.....	1	-----
1981	Mensuration.....	1	-----
1982	Formulas.....	1	-----
1965-A	Mechanical Principles.....	1	-----
1965-B	do.....	1	-----
2877	Heat.....	1	-----
3135	Combustion and Fuels.....	1	-----
3136	Principles of the Internal Combustion Engine.....	1	-----
5163-A	Aviation Engines.....	1	-----
5163-B	do.....	1	-----
5163-C	do.....	1	-----
5164	Aviation Engine Carburetors.....	1	-----
2147	Elementary Principles of Electricity.....	1	-----
2522	Aviation Engine Ignition, Lubrication and Cooling.....	1	-----
2523	Aviation Engine Accessories.....	1	-----
2524	Aviation Engine Management.....	1	-----
2525	Aviation Engine Maintenance.....	1	-----
5361	The Slide Rule (optional).....	1	-----
	Final examination.....	1	-----
	Total.....	24	\$9.55

MTC

AIRPLANE MAINTENANCE

MTC

1975	Elements of Arithmetic.....	1	-----
1976	Fractions.....	1	-----
1977	Decimals.....	1	-----
1978	Weights and Measures.....	1	-----
1979	Ratio and Proportion.....	1	-----
1980	Powers and Roots.....	1	-----
1981	Mensuration.....	1	-----
1982	Formulas.....	1	-----
1965-A	Mechanical Principles.....	1	-----
1965-B	do.....	1	-----
5310-A	The Airplane and Its Parts.....	1	-----
5310-B	do.....	1	-----
5311	Elementary Aeronautical Engineering.....	1	-----
5312	Woodworking Tools.....	1	-----
5313	Metalworking Tools.....	1	-----
5314	Aircraft Woodwork.....	1	-----
5315-A	Aircraft Metalwork.....	1	-----
5315-B	do.....	1	-----
5316	Protection of Airplane Parts.....	1	-----
5317	Covering and Doping Airplane Surfaces.....	1	-----
5318-A	Airplane Instruments and Accessories.....	1	-----
5318-B	do.....	1	-----
2539	Airplane Maintenance.....	1	-----
5364	The Slide Rule (optional).....	1	-----
	Final examination.....	1	-----
	Total.....	25	\$9.45

EAV

ELEMENTARY ELECTRICAL ENGINEERING

EAV

1975	Elements of Arithmetic.....	1	-----
1976	Fractions.....	1	-----
1977	Decimals.....	1	-----
1978	Weights and Measures.....	1	-----
1979	Ratio and Proportion.....	1	-----
1980	Powers and Roots.....	1	-----
1981	Mensuration.....	1	-----
1982	Formulas.....	1	-----
1984	Trigonometry and Graphs.....	1	-----
1621	Mechanics and Machine Elements.....	1	-----
2700-A	Electricity and Magnetism.....	1	-----
2700-B	do.....	1	-----
2716	Theory and Construction of Direct Current Motors and Generators.....	1	-----
2715	Characteristics of Direct Current Motors and Generators.....	1	-----
2704-A	Alternating Currents.....	1	-----
2704-B	do.....	1	-----
5292	Alternators.....	1	-----
5229-A	Transformers.....	1	-----
5229-B	do.....	1	-----
5229-C	do.....	1	-----
5219	Alternating Current Motors.....	1	-----

EAV

ELEMENTARY ELECTRICAL ENGINEERING—Continued

EAV

No.	Title	Lessons	Price
5228	Synchronous Converters and A.-C. Rectifiers.....	1	-----
2714	Industrial Motor Applications.....	1	-----
2369	Electrical Measuring Devices.....	1	-----
5360-A	Storage Batteries.....	1	-----
5360-B	do.....	1	-----
5286	Electric Illuminants.....	1	-----
5226	Theory of Industrial Electronic Tubes.....	1	-----
2746	Electron Tubes and Their Industrial Applications.....	1	-----
5365-A	Electric Heating.....	1	-----
5365-B	do.....	1	-----
2365	Direct Current Armature Repair.....	1	-----
2366	Field Coil and Brush Maintenance.....	1	-----
2742-A	Care and Repair of Fractional Horsepower Motors.....	1	-----
2742-B	do.....	1	-----
3226	Rewinding and Reconnecting of Fractional Horsepower Motors.....	1	-----
2368-A	Alternating Current Motor Repairs.....	1	-----
2368-B	do.....	1	-----
3225	Rewinding and Reconnecting Induction Motors.....	1	-----
	Final examination.....	1	-----
	Total.....	40	\$17. 55

EAT

ELECTRIC-MOTOR REPAIRMEN

EAT

5230	Fundamental Electrical Instruction.....	1	-----
2364	Direct Current Motors and Generators.....	1	-----
2367	Alternating Current Generators, Transformers, and Motors.....	1	-----
2369	Electrical Measuring Devices.....	1	-----
2365	Direct Current Armature Repair.....	1	-----
2366	Field Coil and Brush Maintenance.....	1	-----
2742-A	Care and Repair of Fractional Horsepower Motors.....	1	-----
2742-B	do.....	1	-----
3226	Rewinding and Reconnecting Fractional Horsepower Motors.....	1	-----
2368-A	Alternating Current Motor Repair.....	1	-----
2368-B	do.....	1	-----
3225	Rewinding and Reconnecting Induction Motors.....	1	-----
	Final examination.....	1	-----
	Total.....	13	\$5. 70

EBF

ELECTRICAL OPERATING ENGINEERS

EBF

[Articles of drawing equipment may be obtained from the Institute at a cost of approximately \$6.66]

1975	Elements of Arithmetic.....	1	-----
1976	Fractions.....	1	-----
1977	Decimals.....	1	-----
1978	Weights and Measures.....	1	-----
1979	Ratio and Proportion.....	1	-----
1980	Powers and Roots.....	1	-----
1981	Mensuration.....	1	-----
1982	Formulas.....	1	-----
1984	Trigonometry and Graphs.....	1	-----
5364	The Slide Rule (optional).....	1	-----
1621	Mechanics and Machine Elements.....	1	-----
2700-A	Electricity and Magnetism.....	1	-----
2700-B	do.....	1	-----
2716	Theory and Construction of D.-C. Motors and Generators.....	1	-----
2715	Characteristics of Direct Current Motors and Generators.....	1	-----
2704-A	Alternating Currents.....	1	-----
2704-B	do.....	1	-----
5292	Alternators.....	1	-----
5229-A	Transformers.....	1	-----
5229-B	do.....	1	-----
5229-C	do.....	1	-----
5219	Alternating Current Motors.....	1	-----
5228	Synchronous Converters and A.-C. Rectifiers.....	1	-----
2714	Industrial Motor Applications.....	1	-----
2721-A	Electrical Measuring Instruments.....	1	-----
2721-B	do.....	1	-----
2722	Practical Electrical Measurements.....	1	-----
5293-A	Watt-hour Meters.....	1	-----
5293-B	do.....	1	-----
5293-C	do.....	1	-----
2370-A	Storage Batteries.....	1	-----
2370-B	do.....	1	-----
5286	Electric Illuminants.....	1	-----
2701	Illumination Principles.....	1	-----
5226	Theory of Industrial Electronic Tubes.....	1	-----

EBF

ELECTRICAL OPERATING ENGINEERS—Continued

EBF

No.	Title	Lessons	Price
2746	Electron Tubes and their Industrial Applications	1	-----
5365-A	Electric Heating	1	-----
5365-B	do	1	-----
2741	Electric Furnaces	1	-----
2202	Elementary Chemistry	1	-----
3223	Electroplating	1	-----
5189	Local Distribution of Electrical Energy	1	-----
5254	Logarithms	1	-----
4073-A	Elements of Algebra	1	-----
4073-B	do	1	-----
4073-C	do	1	-----
5202	Complex Quantities in A.-C. Calculations	1	-----
5217	Line Calculations	1	-----
5190	Long Distance Transmission of Electrical Energy	1	-----
2729-A	Practical Electric Wiring	1	-----
2729-B	do	1	-----
2729-C	do	1	-----
5227	Farin Wiring for Light and Power	1	-----
3319	Antenna and Receiver Installations	1	-----
5186	Switchgear	1	-----
2747	Protective Relays and Their Applications	1	-----
3220	Design of Magnets and Electromagnets	1	-----
5294	Voltage Regulation of Alternating Current Circuits	1	-----
5287	Electric Stations	1	-----
5288	Electric Substations	1	-----
5267-A	Operation of Electrical Machinery	1	-----
5267-B	do	1	-----
5267-C	do	1	-----
2717	Efficiency Tests	1	-----
1965-A	Mechanical Principles (optional)	1	-----
1965-B	do	1	-----
994	Materials of Construction	1	-----
2877	Heat	1	-----
2878	Steam	1	-----
	(Accompanied by Keenan's Steam Tables)	-----	-----
2833	Types of Steam Boilers	1	-----
2315	Steam Turbines	1	-----
3224-A	Steam Electric Power Stations	1	-----
3224-B	do	1	-----
3222-A	Hydroelectric Power Stations	1	-----
3222-B	do	1	-----
2900-A	Water Turbines	1	-----
2900-B	do	1	-----
2900-C	do	1	-----
2923	Geometrical Drawing (optional)	6	-----
2924	Elements of Projection Drawing (optional)	4	-----
1946	Mechanical Drawing (optional)	7	-----
	Final examination	1	-----
	Total	96	\$42.20

EGC

GENERAL RADIO

EGC

1975	Elements of Arithmetic	1	-----
1976	Fractions	1	-----
1977	Decimals	1	-----
1978	Weights and Measures	1	-----
1979	Ratio and Proportion	1	-----
1980	Powers and Roots	1	-----
1981	Mensuration	1	-----
4073-A	Elements of Algebra	1	-----
4073-B	do	1	-----
4073-C	do	1	-----
4073-D	do	1	-----
1984	Trigonometry and Graphs	1	-----
5254	Logarithms	1	-----
5364	The Slide Rule (optional)	1	-----
1621	Mechanics and Machine Elements	1	-----
2202	Elementary Chemistry	1	-----
2700-A	Electricity and Magnetism	1	-----
2700-B	do	1	-----
5271	D.-C. Calculations	1	-----
2704-A	Alternating Currents	1	-----
2704-B	do	1	-----
5202	Complex Quantities in A.-C. Calculations (optional)	1	-----
3309	Sound and Acoustics	1	-----
2473	Principles of Radio Communication	1	-----
3501	Radio Tubes	1	-----
3501Z	Radio Tube Tables (no lesson)	-----	-----
3502	Theory of Radio Receivers	1	-----
3503	Vacuum Tube Amplifiers	1	-----
3504	Vacuum Tube Oscillators	1	-----

EGC

GENERAL RADIO—Continued

EGC

No.	Title	Lessons	Price
3506	Methods of Testing Vacuum Tubes	1	-----
3507	Principles of Vacuum Tube Design	1	-----
3313	Batteries and Power Converters	1	-----
3314	Audio and Power Amplifiers	1	-----
3315	Microphones and Loud Speakers	1	-----
3327	Public Address and Centralized Radio Systems	1	-----
2492	Sound Picture Recording	1	-----
2493	Sound Picture Projection	1	-----
3316	Tuned R-F Receivers	1	-----
3317	Superheterodyne Receivers	1	-----
3318	Short Wave and Long Wave Receivers	1	-----
3319	Antenna and Receiver Installations	1	-----
3320	Automobile Radio Installation Service	1	-----
3321	Electrical Measurements in Radio Servicing	1	-----
3322	Diagnosis of Receiver Troubles	1	-----
3323	Voltage and Current Tests	1	-----
3324	Point to Point Resistance Tests	1	-----
3325	Alignment of Tuned Circuits	1	-----
3329	Cathode Ray Oscillograph in Radio Service	1	-----
3328	Elimination of Radio Interference	1	-----
2716	Theory and Construction of D.-C. Motors and Generators	1	-----
5292	Alternators	1	-----
5229-A	Transformers	1	-----
5229-B	do	1	-----
5229-C	do	1	-----
5219	Alternating-Current Motors	1	-----
5228	Synchronous Converters and A.-C. Rectifiers	1	-----
2721-A	Electrical Measuring Instruments	1	-----
2721-B	do	1	-----
5360-A	Storage Batteries	1	-----
5360-B	do	1	-----
3220	Design of Magnets and Electromagnets	1	-----
2728	Design of Transformers	1	-----
2014	Codes and Code Practice (optional)	1	-----
2474	Radio Antennas	1	-----
2018	Undamped Wave Radio Communication	1	-----
2489	Radio Telegraph Transmitters	1	-----
2490	do	1	-----
3549	Facsimile Transmission and Reception	1	-----
3550-A	Principles of Television. ¹		
3550-B	Do. ¹		
3550-C	Do. ¹		
35-1	Police and Aviation Ground Station Transmitters	1	-----
35-2	Broadcast Transmitters	1	-----
35-4	Radio Transmitters for Telephone and Telegraph	1	-----
21-1	Wavemeters and Frequency Monitoring Units	1	-----
32-1	Point to Point Communication	1	-----
2923	Geometrical Drawing	6	-----
2924	Elements of Projection Drawing	4	-----
1946	Mechanical Drawing	7	-----
	Final examination	1	-----
	Total	90	\$31.80

EIX

PRACTICAL RADIO SERVICING

EIX

3301-2	Direct Current and Ohm's Law	1	-----
3302-2	Direct Current Networks	1	-----
3303	Magnetism and Electromagnetism	1	-----
3303X	Radio Job Sheet (no lesson)		
3304	Theory of Alternating Currents	1	-----
3305-2	Inductance and Capacity	1	-----
3506	Resonant Electrical Circuits	1	-----
3306X	Radio Job Sheet (no lesson)		
3307	Transformers in Radio Receivers	1	-----
3308	Motors and Generators	1	-----
3309	Sound and Acoustics	1	-----
3309X	Radio Job Sheet (no lesson)		
3310	Principles of Radio Transmission	1	-----
3311	Theory of Radio Tubes	1	-----
3312	Radio Receiving Systems	1	-----
3312X	Radio Job Sheet		
3313	Batteries and Power Converters	1	-----
3314	Audio and Power Amplifiers	1	-----
3315	Microphones and Loud Speakers	1	-----
3316	Tuned Radio Frequency Receivers	1	-----
3317	Superheterodyne Receivers	1	-----
3318	Short-Wave and Long-Wave Receivers	1	-----

¹ In preparation.

EHX

PRACTICAL RADIO SERVICING—Continued

EHX

No.	Title	Lessons	Price
3319	Antenna and Receiver Installations	1	-----
2729-A	Practical Electric Wiring	1	-----
2729-B	do.	1	-----
3320	Automobile Radio Installation and Service	1	-----
3321	Electrical Measurements in Radio Servicing	1	-----
3322	Diagnosis of Receiver Troubles	1	-----
3323	Voltage and Current Tests	1	-----
3324	Point-to-Point Resistance Tests	1	-----
3325	Alignment of Tuned Circuits	1	-----
3329	Cathode Ray Oscillograph in Radio Service	1	-----
3549	Facsimile Transmission and Reception	1	-----
3326	Radio Sales and Advertising	1	-----
3327	Public Address and Centralized Radio Systems	1	-----
3328	Elimination of Radio Interference	1	-----
3550-A	Principles of Television ²	1	-----
3550-B	do. ²	1	-----
3550-C	do. ²	1	-----
	Final examination	1	-----
	Total	36	\$11.09

SDZ

SHORT MECHANICAL DRAWING

SDZ

[Articles of drawing equipment may be obtained from the Institute at a cost of approximately \$6.66]

2923	Geometric Drawing	6	-----
2924	Elements of Projection Drawing (5 plates of elementary geometrical figures for which no sample plates are furnished and the following 4 plates for which sample plates are furnished)	4	-----
	200-2 Projections—I.		
	201-2 Projections—II.		
	202-2 Conic Sections—III.		
	203-2 Intersections and Developments—IV.		
1946	Mechanical Drawing (7 plates)	7	-----
	637 Common Conventions (1001).		
	638 Simple Machine Details (1002).		
	639 Fastenings (1003).		
	640 Helical Forms (1004).		
	641 Pulley and Coupling (1005).		
	642 Gear Connecting Rod and Piston (1006).		
	643 Knife Switch, Assembly and Details (1007).		
2249	Machine Sketching	1	-----
	Total	18	\$2.90

MIH

READING SHOP BLUEPRINTS

MIH

1975	Elements of Arithmetic	1	-----
1976	Fractions	1	-----
1977	Decimals	1	-----
1978	Weights and Measures	1	-----
2239	Elements of Blueprint Reading	1	-----
2240-A	Reading Shop Blueprints	1	-----
2240-B	do.	1	-----
2240-C	do.	1	-----
2240-D	do.	1	-----
	(Accompanied by Form 3028, Illustrations for Reading Shop Blueprints, pt. 4)		
2249	Machine Sketching	1	-----
2209	Measuring Instruments (optional)	1	-----
2206	Precision Measuring Instruments (optional)	1	-----
994	Materials of Construction (optional)	1	-----
2202	Elementary Chemistry (optional)	1	-----
	Final examination	1	-----
	Total	15	\$5.45

² In preparation.

WGS

GRADE-SCHOOL SUBJECTS

WGS

[A student may enroll in as many subjects as he desires, but in order to receive a diploma he must complete 5 subjects]

No.	Title	Lessons	Price
SPELLING			
1956-A	Spelling	4	
1956-B	do	4	
	Total	8	\$1.35
ARITHMETIC			
1975	Elements of Arithmetic	1	
1976	Fractions	1	
1977	Decimals	1	
1978	Weights and Measures	1	
1979	Ratio and Proportion	1	
1980	Powers and Roots	1	
1981	Mensuration	1	
1986-A	Commercial Calculations	1	
1986-B	do	1	
	Total	9	2.70
CIVICS (AMERICAN GOVERNMENT)			
BV	American Government (Magruder)		
2940-A-L	American Government	12	
	Total	12	2.00
GEOGRAPHY			
BV	Human Geography (J. Russell Smith)		
2935-A-N	Geography	14	
	Total	14	2.22
GRAMMAR, ENGLISH			
3077-A	English Grammar	1	
3077-B	do	1	
3077-C	do	1	
3077-D	do	1	
3077-E	do	1	
3077-F	do	1	
3077-G	do	1	
3077-H	do	1	
3077-I	do	1	
3077-J	do	1	
3079	Capitalization and Punctuation	1	
3078-A	Elements of English Composition	1	
3078-B	do	1	
3078-C	do	1	
	Total	14	4.10
HISTORY, AMERICAN			
BV	History of the American People (Muzzey)		
3101	Manual of Suggestions		
3102-A-N	American History	14	
	Total	14	2.50
LETTER WRITING			
3080-A	Letter Writing	1	
3080-B	do	1	
3080-C	do	1	
3080-D	do	1	
3080-E	do	1	
3080-F	do	1	
1912	Indexing	1	
1913	Filing	1	
	Total	8	2.30
PHYSIOLOGY AND HEALTH			
BV	Healthful Living (Williams)		
2936-A-L	Physiology and Health	12	
	Total	12	1.80

WI

HIGH-SCHOOL SUBJECTS

WI

[A student may enroll in as many subjects as he desires, but in order to receive a diploma he must complete 5 subjects]

No.	Title	Lessons	Price
ALGEBRA, ELEMENTARY			
4073-A	Elements of Algebra.....	1	-----
4073-B	do.....	1	-----
4073-C	do.....	1	-----
4073-D	do.....	1	-----
379-A	Algebra.....	1	-----
379-B	do.....	1	-----
379-C	do.....	1	-----
379-D	do.....	1	-----
379-E	do.....	1	-----
379-F	do.....	1	-----
379-G	do.....	1	-----
2938	Graphs (for reference only).....	1	-----
379-H	Algebra.....	1	-----
379-I	do.....	1	-----
379-J	do.....	1	-----
	Total.....	14	\$3. 95
COMPOSITION AND RHETORIC			
BV	Composition and Rhetoric (Tanner).....		-----
3081	Composition and Rhetoric.....	14	-----
	Total.....	14	1. 52
ECONOMICS			
BV	Fundamentals of Economics (Hughes).....		-----
2939-A-J	Economics.....	10	-----
	Total.....	10	1. 97
GEOGRAPHY, PHYSICAL			
BV	New Physical Geography (Tarr and Von Engeln).....		-----
2937-A-O	Physical Geography.....	15	-----
	Total.....	15	2. 55
GEOMETRY, PLANE			
BV	Plane Geometry (Wentworth and Smith).....		-----
2190	Plane Geometry.....	6	-----
	Total.....	6	1. 25
GEOMETRY, SOLID			
BV	Solid Geometry (Wentworth and Smith).....		-----
2190	Solid Geometry.....	4	-----
	Total.....	4	1. 25
HISTORY, ANCIENT			
BV	History of Europe, Ancient and Medieval (Robinson and Breasted).....		-----
3090	Ancient History.....	8	-----
	Total.....	8	1. 72
HISTORY, MEDIEVAL			
BV	History of Europe, Ancient and Medieval (Robinson and Breasted).....		-----
3091	Medieval History.....	8	-----
	Total.....	8	1. 72
HISTORY, MODERN EUROPEAN			
BV	Modern History (Hayes and Moon).....		-----
3092	Modern European History.....	13	-----
	Total.....	13	2. 20

WGS		HIGH-SCHOOL SUBJECTS—Continued		WGS	
No.	Title	Lessons	Price		
PHYSICS					
BV 1807	Practical Physics (Black and Davis).....	11			
	Physics.....	11	\$1.83		
	Total.....	11			
PHYSIOLOGY AND HEALTH					
BV 2936-A-L	Healthful Living (Williams).....	12			
	Physiology and Health.....	12	1.80		
	Total.....	12			
TRIGONOMETRY, PLANE					
BV 883	Plane Trigonometry (Wentworth).....	7			
	Plane Trigonometry.....	7	1.12		
	Total.....	7			
	Final examination.				
BYH					
GOOD ENGLISH		BYH			
BV	Winston Simplified Dictionary.....	1			
1920-A	Good English.....	1			
1920-B	do.....	1			
1920-C	do.....	1			
1920-D	do.....	1			
1920-E	do.....	1			
1920-F	do.....	1			
1920-G	do.....	1			
1920-H	do.....	1			
1920-I	do.....	1			
1920-J	do.....	1			
1920-K	do.....	1			
1920-L	do.....	1			
1920-M	do.....	1			
1920-N	do.....	1			
1920-O	do.....	1			
	Final examination.....	1			
	Total.....	16	\$5.70		
INN					
HIGH-SCHOOL MATHEMATICS		INN			
1975	Elements of Arithmetic.....	1			
1976	Fractions.....	1			
1977	Decimals.....	1			
1978	Weights and Measures.....	1			
1979	Ratio and Proportion.....	1			
1980	Powers and Roots.....	1			
1981	Mensuration.....	1			
1986-A	Commercial Calculations.....	1			
1986-B	do.....	1			
4073-A	Elements of Algebra.....	1			
4073-B	do.....	1			
4073-C	do.....	1			
4073-D	do.....	1			
379-A	Algebra.....	1			
379-B	do.....	1			
379-C	do.....	1			
379-D	do.....	1			
379-E	do.....	1			
379-F	do.....	1			
379-G	do.....	1			
379-H	do.....	1			
2938	Graphs (for reference only).....	1			
379-I	Algebra.....	1			
379-J	do.....	1			
BV	Plane Geometry (Wentworth and Smith).....				
BV	Solid Geometry (Wentworth and Smith).....				
2190	Plane and Solid Geometry (question paper).....	10			
BV	Plane Trigonometry (Wentworth).....	7			
883	Plane Trigonometry (question paper).....	1			
	Final examination.....				
	Total.....	41	\$10.27		

MARITIME SERVICE COURSES ³

No.	Title	Lessons	Price
	Seamanship.....	6	\$3.75
	Ship Construction.....	2	1.35
	Maritime Law for Seamen.....	6	2.75
	Meteorology (Pan American Airways).....	15	1.00

³ Diploma will be issued only on completion of combined course in Seamanship, Ship Construction, and Maritime Law.

UNIVERSITY OF FLORIDA



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